

9 18 27 36 45 54
 5' NCA ATG GGC CGG CCG TGG GAA GGG TGA ATG TGG GTC CAG ACC CGC CCC TCC TCA

 63 72 81 90 99 108
 GCT TCC TAT AAA AGC TGG GGA CCA GGT ACT GCT GAT ACA CAC ACC ATG AGG CTC
 M R L

 117 126 135 144 153 162
 TCC AGG AGA CCA GAG ACC TTT CTG GCC TTT TTG CTC ACC CTC CTG
 S R R P E T F L L A F V L L C T L L

 171 180 189 198 207 216
 GGT CTT GGG TGC CCA CTA CAC TGC GAA ATA TGT ACG GCG GGG AGC AGG TGC
 G L G C P L H C E I C T A A G S R C

 225 234 243 252 261 270
 CAT GGC CAA ATG AAG ACC TGC AGC AGT GAC AAG GAC ACA TGT GTG CTC CTG GTC
 H G Q M K T C S S D K D T C V L L V

 279 288 297 306 315 324
 GGG AAG GCT ACT TCA AAG GGC AAG GAG TTG GTG CAC ACC TAC AAG GGC TGC ATC
 G K A T S K G K E L V H T Y K G C I

 333 342 351 360 369 378
 AGG TCC CAG GAC TGC TAC TCC GGC GTT ATA TCC ACC ACC ATG GGC CCC AAG GAC
 R S Q D C Y S G V I S T T M G P K D

FIGURE 1A

| | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 387 | CAC | ATG | GTA | ACC | AGC | TCC | TTT | TGC | TGC | CAG | AGC | GAC | GGC | TGC | AAC | AGT | GCC | TTT | 432 |
| | H | M | V | T | S | S | F | C | C | Q | S | D | G | C | N | S | A | F | |
| 441 | TTG | TCT | GTT | CCC | TTG | ACC | AAT | CTT | ACT | GAG | AAT | GGC | CTG | ATG | TGC | CCC | GCC | TGC | 486 |
| | L | S | V | P | L | T | N | L | T | E | N | G | L | M | C | P | A | C | |
| 495 | ACT | GCG | AGC | TTT | AGG | GAC | AAA | TGC | ATG | GGG | CCC | ATG | ACC | CAC | TGT | ACT | GGA | AAG | 540 |
| | T | A | S | F | R | D | K | C | M | G | P | M | T | H | C | T | G | K | |
| 549 | GAA | AAC | CAC | TGC | GTC | TCC | TTA | TCT | GGA | CAC | GTG | CAG | GCT | GGT | ATT | TTC | AAA | CCC | 594 |
| | E | N | H | C | V | S | L | S | G | H | V | Q | A | G | I | F | K | P | |
| 603 | AGA | TTT | GCT | ATG | CGG | GGC | TGT | GCT | ACA | GAG | AGT | ATG | TGC | TTT | ACC | AAG | CCT | GGT | 648 |
| | R | F | A | M | R | G | C | A | T | E | S | M | C | F | T | K | P | G | |
| 657 | GCT | GAA | GTA | CCC | ACA | GGC | ACC | AAT | GTC | CTC | CTC | CTC | CAT | CAT | ATA | GAG | TGC | ACT | 702 |
| | A | E | V | P | T | G | T | N | V | L | F | L | H | H | I | E | C | T | |
| 711 | CAC | TCC | CCC | TGA | AAA | GCT | ATC | TGA | ACA | GAG | GAA | GAT | AAT | GTA | GTG | TGA | ACT | CCC | 756 |
| | H | S | P | | | | | | | | | | | | | | | | |

FIGURE 1B

T09090° 0255/860

| | | | | | |
|---|-----|-----|-----|-----|-----|
| 765 | 774 | 783 | 792 | 801 | 810 |
| CAT TTG TCC TCA GCC TGT AAC TTC CCC GTG TGC CTA TAA AGA AGT TAA TAG AGC | | | | | |
| 819 | 828 | 837 | | | |
| AAA AAA AAA AAA AAA AAA AAC TCG AG 3' | | | | | |

FIGURE 1C

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|---|---------|-----------|
| 1 | N | C | A | A | T | G | G | G | C | C | G | C | G | T | G | G | G | A | A | G | G | T | G | A | A | T | G | consensus |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8941 | |
| 1 | G | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 10033 | |
| 1 | G | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 10644 | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 10774 | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 71854 | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 72861 | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 74452 | |
| 1 | - | - | - | - | - | - | - | - | - | - | C | N | T | G | - | - | - | - | - | - | - | - | - | - | - | - | 155045 | |
| 1 | N | C | A | A | T | G | G | G | C | C | G | C | G | T | G | G | A | A | G | G | T | G | A | A | T | G | 156817 | |
| 1 | A | G | A | A | G | A | C | C | A | T | N | C | C | A | G | A | A | - | G | T | - | - | T | G | 619856 | | | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 683480 | |
| 1 | G | - | - | - | - | - | - | - | - | - | - | - | - | - | - | G | A | A | - | - | - | - | - | - | - | - | 1291208 | |
| 31 | T | G | G | T | C | C | A | G | A | C | C | G | C | C | C | T | C | C | T | C | A | G | C | T | T | C | C | consensus |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8941 | |
| 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 10033 | |
| 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 10644 | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 10774 | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 71854 | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 72861 | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 74452 | |
| 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 155045 | |
| 31 | T | G | G | T | C | C | A | G | A | C | C | G | C | C | C | T | C | C | T | C | A | G | C | T | T | C | C | 156817 |
| 26 | T | G | G | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 619856 | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 683480 | |
| 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | T | C | C | C | A | G | - | T | T | C | T | 1291208 |

Figure 2A

| | | |
|----|---|-----------|
| 61 | T A T A A A G C T G G G G A C C A G G T A C T G C T G A T | consensus |
| 1 | - - - - - G G A - - G G - - - - - | 8941 |
| 2 | - - - - - - - - - - - - - - - - - | 10033 |
| 2 | - - - - - - - - - - - - - - - - - | 10644 |
| 1 | - - - - - - - - - - - - - - - - - | 10774 |
| 1 | - - - - - - - - - - - - - - - - - | 71854 |
| 1 | - - - - - - - - - - - - - - - - - | 72861 |
| 1 | - - - - - - - - - - - - - - - - - | 74452 |
| 15 | - - - - - - - - - - - - - - - - - | 155045 |
| 61 | T A T A A A G C T G G G G A C C A G G T A C T G C T G A T | 156817 |
| 30 | - - - - - G T T G G G A - - G G - - - - - | 619856 |
| 1 | - - - - - - - - - - - - - - - - - | 683480 |
| 16 | T G C A G C C A C T G G G A A T C A G - - - - - | 1291208 |
| 91 | A C A C A C A C C A T G A G G C T C T C C A G G A G A C C A | consensus |
| 6 | - - - - - C C T A G G G T T - - - - - A G G C - - | 8941 |
| 2 | - - - - - - - - - - - - - - - - - | 10033 |
| 2 | - - - - - - - - - - - - - - - - - | 10644 |
| 1 | - - - - - - - - - - - - - - - - - | 10774 |
| 1 | - - - - - - - - - - - - - - - - - | 71854 |
| 1 | - - - - - - - - - - - - - - - - - | 72861 |
| 1 | - - - - - - - - - - - - - - - - - | 74452 |
| 15 | - - - - - - - - - - - - - - - - - | 155045 |
| 91 | A C A C A C C A C C A T G A G G E T C T C C A G G A G A C C A | 156817 |
| 40 | - - - - - C C T A G G G T T - - - - - A G G C - - | 619856 |
| 1 | - - - - - - - - - - - - - - - - - | 683480 |
| 36 | - - - - - - - - - - - - - - - - - A G G C C C | 1291208 |

Figure 2B

| | | |
|-----|---------------------------------|-----------|
| 121 | GAGACCTTCTGCTGGCCCTTGTGTGTGCTC | consensus |
| 19 | AAGACCTT | 8941 |
| 2 | - | - |
| 2 | - | - |
| 1 | - | - |
| 1 | - | - |
| 1 | - | - |
| 1 | - | - |
| 1 | - | - |
| 15 | - | - |
| 121 | GAGACCTTCTGCTGGCCCTTGTGTGTGCTC | consensus |
| 53 | AAGACCTT | 8941 |
| 1 | - | - |
| 42 | AA | - |
| 151 | TGCACCCCTCCGGGCTTGGGTTGCCACTA | consensus |
| 27 | - | - |
| 8 | TNCACCCCTCCGGGCTTGGGTTGCCACTA | 10033 |
| 2 | - | - |
| 19 | TGCACCCCTCCGGGCTTGGGTTGCCACTA | 10644 |
| 3 | - | - |
| 1 | - | - |
| 1 | - | - |
| 1 | - | - |
| 20 | T-CACCCCTCCNGGGTCTNNGGGTGCCACNA | 155045 |
| 151 | TGCACCCCTCCGGGTTCTGGGTTGCCACTA | 156817 |
| 61 | - | - |
| 1 | - | - |
| 47 | CG | - |

Figure 2C

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-------|-----------|-----------|---|-----------|---|-----------|
| 181 | C | A | C | T | G | C | G | A | A | T | A | T | G | T | A | C | G | G | C | G | G | G | A | G | C | consensus | | | | | |
| 38 | - | - | - | - | - | T | G | A | A | G | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8941 | | | | | | |
| 38 | C | A | C | T | G | C | G | A | A | T | A | T | G | T | A | C | G | G | C | G | C | G | G | A | G | 10033 | | | | | |
| 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 10644 | | | | | | |
| 49 | C | A | C | T | G | C | G | A | A | T | A | T | G | T | A | C | G | G | C | G | C | G | G | A | G | 10774 | | | | | |
| 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 71854 | | | | | | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 72861 | | | | | | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 74452 | | | | | | |
| 49 | C | A | C | T | G | C | G | A | A | T | A | T | G | T | A | C | G | G | C | G | C | G | G | T | A | G | 155045 | | | | |
| 181 | C | A | C | T | G | C | G | A | A | T | A | T | G | T | A | C | G | G | C | G | C | G | G | G | A | G | 156817 | | | | |
| 72 | - | - | - | - | - | T | G | A | A | G | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 619856 | | | | | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 683480 | | | | | |
| 71 | N | N | N | N | N | N | N | C | A | T | G | G | G | C | - | C | G | G | C | C | G | T | G | G | A | G | - 1291208 | | | | |
| 211 | A | G | G | T | G | C | C | A | T | G | G | C | C | A | A | T | G | A | A | G | A | C | C | T | G | C | A | G | consensus | | |
| 51 | - | - | - | - | - | - | T | G | G | T | C | A | G | - | - | - | - | - | - | - | - | - | - | - | - | - | 8941 | | | | |
| 68 | A | G | G | T | G | C | C | A | T | G | G | C | C | A | A | T | G | A | A | G | A | C | C | T | G | C | A | G | 10033 | | |
| 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 10644 | | | | |
| 79 | A | G | G | T | G | C | C | A | T | G | G | C | C | A | A | T | G | A | A | G | A | C | C | T | G | C | A | G | 10774 | | |
| 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 71854 | | | | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 72861 | | | | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 74452 | | | | |
| 79 | A | G | G | T | T | C | C | A | T | G | N | C | C | A | A | T | N | A | A | G | A | N | C | T | T | C | A | N | 155045 | | |
| 211 | A | G | G | T | G | C | C | A | T | G | G | C | C | A | A | T | G | A | A | G | A | C | C | T | G | C | A | G | 156817 | | |
| 85 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 619856 | | | | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 683480 | | | | |
| 99 | - | G | G | T | G | - | - | - | - | - | - | - | - | - | - | A | A | T | G | T | G | G | G | T | C | - | - | C | A | G | - 1291208 |

Figure 2D

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------|-----------|---|---------|---|-------|
| 241 | A | G | T | G | A | C | A | A | G | G | A | C | A | C | A | T | G | T | G | T | G | C | T | C | C | T | G | G | T | C | consensus | | | | |
| 63 | A | C | T | G | T | C | - | - | - | - | - | - | - | - | - | - | C | C | T | G | C | C | T | G | T | C | C | C | A | - | T | C | 8941 | | |
| 98 | A | G | T | G | A | C | A | A | G | G | A | C | A | C | A | T | G | T | G | T | G | C | T | C | C | T | G | G | T | C | 10033 | | | | |
| 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | A | C | A | C | A | T | G | T | G | T | N | C | T | C | T | G | T | C | 10644 |
| 109 | A | G | T | G | A | C | A | A | G | G | A | C | A | C | A | T | G | T | G | T | G | C | T | C | C | T | G | G | T | C | 10774 | | | | |
| 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 71854 | | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 72861 | | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 74452 | | |
| 109 | N | G | T | G | A | C | A | A | G | G | A | C | A | C | A | T | G | T | N | T | G | C | T | C | C | T | G | G | T | C | 155045 | | | | |
| 241 | A | G | T | G | A | C | A | A | G | G | A | C | A | C | A | T | G | T | G | T | G | C | T | C | C | T | G | G | T | C | 156817 | | | | |
| 97 | A | C | T | G | T | C | - | - | - | - | - | - | - | - | - | - | C | C | T | G | C | T | G | T | C | C | C | C | A | - | T | C | 619856 | | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 683480 | | |
| 116 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1291208 | | |
| | | | | | | | | | | | | | | | | | A | C | C | G | C | C | C | T | C | C | T | C | | | | | | | |
| 271 | G | G | G | A | A | G | G | C | T | A | C | T | T | C | A | A | A | G | G | G | C | A | A | G | A | G | T | T | G | consensus | | | | | |
| 85 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | C | C | A | - | - | - | - | - | - | - | - | - | - | - | - | - | 8941 | | |
| 128 | G | G | G | A | A | G | G | C | T | A | C | T | T | C | A | A | A | G | G | G | C | A | A | G | A | G | T | T | G | 10033 | | | | | |
| 22 | G | G | G | A | A | G | G | C | T | A | C | T | T | C | A | A | A | G | G | G | C | A | A | G | A | G | T | T | G | 10644 | | | | | |
| 139 | G | G | G | A | A | G | G | C | T | A | C | T | T | C | A | A | A | G | G | G | C | A | A | G | A | G | T | T | G | 10774 | | | | | |
| 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 71854 | | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 72861 | | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 74452 | | |
| 139 | G | G | N | A | A | G | N | C | T | A | C | T | T | C | A | A | A | G | G | G | C | A | A | G | A | G | T | T | G | 155045 | | | | | |
| 271 | G | G | G | A | A | G | G | C | T | A | C | T | T | C | A | A | A | G | G | G | C | A | A | G | A | G | T | T | G | 156817 | | | | | |
| 119 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 619856 | | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 683480 | | |
| 130 | A | G | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1291208 | | |

Figure 2E

| | | |
|-----|---|-----------|
| 301 | G T G C A C A C C T A C A A G G G C T G C A T C A G G T C C | consensus |
| 105 | G T G C A C A C C T A C A A G G G C T G C A T C A G G T C C | 8941 |
| 158 | G T G C A C A C C T A C A A G G G C T G C A T C A G G T C C | |
| 52 | G T G C A C A C C T A C A A G G G C T G C A T C A G G T C C | 10033 |
| 169 | G T G C A C A C C T A C A A G G G C T G C A T C A G G T N C | 10644 |
| 3 | - - - - - | 10774 |
| 5 | G T G C A C A C C T A C A A G G G C T G C A T C A G G T C C | 71854 |
| 1 | - - - - - | 72861 |
| 169 | G T G C A C | 74452 |
| 301 | G T G C A C A C C T A C A A G G G C T G C A T C A G G T C C | 155045 |
| 139 | G T G C A C A A C T A C A A G G G C T G C A T C A G G T C C | 156817 |
| 5 | G T G C A C A C C T A C A A G G G C T G C A T C A G G T C C | 619856 |
| 136 | - - - - - C T A T A A A G C T G - - - - - | 683480 |
| | | 1291208 |
| 331 | C A G G A C T G C T A C T C C G G C G T T A T A T C C A C C | consensus |
| 135 | C A G G A C T G C T A C T C C G G C G T T A T A T C N A C C | 8941 |
| 188 | C A G G A C T G C T A C T C C G G C G T T A T A T C C A C C | 10033 |
| 82 | C A G G A C T G C T A C T C C G G C G T T A T A T C C A C C | 10644 |
| 199 | C A G G A C T G C T A C T C C G G C G T T A T A T C C A C C | 10774 |
| 3 | - - - - - C C G G C G T T A T A T C C A C C | 71854 |
| 35 | C A G G A C T C T A C T C C G G C G T T A T A T C C A C C | 72861 |
| 1 | - - - - - C T C C G G C G T T A T A T C C A C C | 74452 |
| 174 | | 155045 |
| 331 | C A G G A C T G C T A C T C C G G C G T T A T A T C C A C C | 156817 |
| 169 | C A G G A C T G C T A C T C C G G C G T T A T A T C C A C C | 619856 |
| 35 | C A G G A C T G C T A C T C C G G C G T T A T A T C C A C C | 683480 |
| 148 | - - - - - | 1291208 |

Figure 2F

| | | |
|-----|---|-----------|
| 361 | A C C A T G G G C C C C A A G G A C C A C A T G G T A A C C | consensus |
| 165 | A C C A T G G G C C C C A A G G A C C A C A T G G T A A C C | 8941 |
| 218 | A C C A T G G G C C C C A A G G A C C A C A T G G T A A C C | |
| 112 | A C C A T G G G C C C C A A G G A C C A C A T G G T A A C C | 10033 |
| 229 | A C C A T G G G C C C C A A G G A C C A C A T G G T A A C C | 10644 |
| 20 | A C C A T G G G C C C C A A G G A C C A C A T G G T A A C C | 10774 |
| 65 | A C C A T G G G C C C C A A G G A C C A C A T G G T A A C C | 71854 |
| 20 | A C C A T G G G C C C C A A G G A C C A C A T G G T A A C C | 72861 |
| 174 | A C C A T G G G C C C C A A G G A C C A C A T G G T A A C C | 74452 |
| 361 | A C C A T G G G C C C C A A G G A C C A C A T G G T A A C C | 155045 |
| 199 | A C C A T G G G C C C C A A G G A C C A C A T G G T A A C C | 156817 |
| 65 | A C C A T G G G N C C C A A G G A C C A C A T G G T | 619856 |
| 148 | - - - - - - - - - - G G A C C A - - G G T A - - | 683480 |
| | | 1291208 |
| 391 | A G C T C C T T C T G C T G C C A G A G C G A C G G C T G C | consensus |
| 195 | A G C T C C T T C T G N T G C C A G A G C G A C G G C T G C | 8941 |
| 248 | A G C T C C T T C T G C T G C - A G A G C G A C G G C T G C | 10033 |
| 142 | A G C T C C T T C T G C T G C C A G A G C G A C G G C T G C | 10644 |
| 259 | A G C T C C T T C T G C T G C C A G A G C G A C G G C T G C | 10774 |
| 50 | A G C T C C T T C T G C T G C C A G A G C G A C G G C T G C | 71854 |
| 95 | A G C T C C T T N T G C T G C C A G A G C G A C G G C T G C | 72861 |
| 50 | A G C T C C T T C T G C T G C C A G A G C G A C G G C T G C | 74452 |
| 174 | | 155045 |
| 391 | A G C T C C T T C T G C T G C C A G A G C G A C G G C T G C | 156817 |
| 224 | | 619856 |
| 95 | A G C T C C T T N T G C T G C C A G A G C G A C G N C T G C | 683480 |
| 159 | - C T G C | 1291208 |

Figure 2G

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|-----------|-------|-----------|
| 421 | A | A | C | A | G | T | G | C | C | T | T | T | G | T | C | T | G | T | T | C | C | T | T | G | A | C | consensus | | |
| 225 | A | A | C | A | G | T | G | C | C | T | T | T | T | G | T | C | T | G | T | T | C | C | T | T | G | A | C | 8941 | |
| 277 | A | A | C | A | G | T | G | C | C | T | T | T | T | G | T | C | T | G | T | T | C | C | T | T | G | A | C | 10033 | |
| 172 | A | A | C | A | G | T | G | C | C | T | T | T | T | G | T | C | T | G | T | T | C | C | T | T | G | A | C | 10644 | |
| 289 | A | A | C | A | G | T | G | C | C | T | T | T | T | G | T | C | T | G | T | T | C | C | T | T | G | A | C | 10774 | |
| 80 | A | A | C | A | N | T | G | C | C | T | T | T | T | N | T | N | T | G | T | T | C | C | T | T | G | A | C | 71854 | |
| 125 | A | A | C | A | T | G | C | C | T | T | T | T | N | T | N | T | G | T | N | C | C | C | T | T | G | | 72861 | | |
| 80 | A | A | C | A | N | T | G | C | C | T | T | T | N | T | N | T | G | T | T | C | C | C | T | T | G | A | C | 74452 | |
| 174 | | | | | | | | | | | | | | | | | | | | | | | | | | 155045 | | | |
| 421 | A | A | C | A | G | T | G | C | C | T | T | T | T | G | T | C | T | G | T | T | C | C | C | T | T | G | A | C | 156817 |
| 224 | | | | | | | | | | | | | | | | | | | | | | | | | | 619856 | | | |
| 125 | A | A | C | A | G | T | G | C | C | T | T | T | T | G | T | C | T | G | T | T | C | C | C | T | T | G | A | C | 683480 |
| 163 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1291208 | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 451 | A | A | T | C | T | A | C | T | G | A | G | A | A | T | G | G | C | C | T | G | A | T | G | T | G | C | C | C | consensus |
| 255 | A | A | T | C | T | A | C | T | G | A | G | A | A | T | G | G | C | C | T | G | A | T | G | T | G | C | C | C | 8941 |
| 307 | A | A | T | C | T | A | C | T | G | A | G | A | A | T | G | G | T | | | | | | | | | | 10033 | | |
| 202 | A | A | T | N | T | A | C | T | G | A | G | A | A | T | N | G | N | C | T | G | A | T | G | T | G | C | C | C | 10644 |
| 319 | A | A | T | C | T | A | C | T | G | A | G | A | A | T | G | G | C | C | T | G | A | T | G | T | G | C | C | C | 10774 |
| 110 | A | A | T | C | T | A | C | T | G | A | G | A | A | T | G | G | C | C | T | G | A | T | G | T | G | C | C | C | 71854 |
| 151 | | | | | | | | | | | | | | | | | | | | | | | | | | 72861 | | | |
| 110 | A | A | T | C | T | A | C | T | G | A | G | A | A | T | G | G | C | C | T | G | A | T | G | T | G | C | C | C | 74452 |
| 174 | | | | | | | | | | | | | | | | | | | | | | | | | | 155045 | | | |
| 451 | A | A | T | C | T | A | C | T | G | A | G | A | A | T | G | G | C | C | T | G | A | T | G | T | G | C | C | C | 156817 |
| 224 | | | | | | | | | | | | | | | | | | | | | | | | | | 619856 | | | |
| 155 | A | A | T | C | T | A | C | T | G | A | G | A | A | T | G | G | C | C | T | G | A | T | G | T | G | C | C | C | 683480 |
| 163 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | T | G | A | T | A | C | A | C | - - - | |

Figure 2H

| | | |
|-----|---|-----------|
| 481 | G C C T G C A C T G C G A G C T T C A G G G A C A A T G C | consensus |
| 285 | G C - T G C A C T G C G A G T T T N A G G G N C A A A - - | 8941 |
| 324 | | 10033 |
| 232 | G N C T G C A C T G N G A G C T T C A G G G A C A A T G C | 10644 |
| 349 | G C C T G C A C T G C G A G C T T C A G G G A C A A T G C | 10774 |
| 140 | G C C T G C A C T G C G A G C T T C A G G G A C A A T G C | 71854 |
| 151 | | 72861 |
| 140 | G C C T G C A C T G C G A G C T T C A G G G A C A A T G C | 74452 |
| 174 | | 155045 |
| 481 | G C C T G C A C T G C G A G C T T C A G G G A C A A T G C | 156817 |
| 224 | | 619856 |
| 185 | G N C T G C A C T G C G A G C T T N A G G G A C A A T G C | 683480 |
| 171 | - - - - A C A C - - - - - - - - - - - - - - - C | 1291208 |
| 511 | A T G G G G C C C A T G A C C C A C T G T A C T G G A A A G | consensus |
| 311 | - - - - A T N C A T G - - - - - - - - - - - - - - | 8941 |
| 324 | | 10033 |
| 262 | - | 10644 |
| 379 | A T G G G G C C C A T G A C C C A C T G T A C T G G A A A G | 10774 |
| 170 | A T G G G G C C C A T G A C C C | 71854 |
| 151 | | 72861 |
| 170 | A T G G G G C C C A T G A C C C - - - - - C A G G A - - | 74452 |
| 174 | | 155045 |
| 511 | A T G G G G C C C A T G A C C C A C T G T A C T G G A A A G | 156817 |
| 224 | | 619856 |
| 215 | A T G G G G C C C A T G A C C C A C T G T A C T G G A G A G | 683480 |
| 176 | A T G A G G C T C - - - - T C C C A - - - - - - - - - | 1291208 |

Figure 2I

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------|-----------|
| 541 | G | A | A | A | C | C | A | C | T | G | C | G | T | C | T | C | T | T | A | T | C | T | G | G | A | C | A | C | consensus | |
| 318 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8941 | |
| 324 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 10033 | |
| 262 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 10644 | |
| 409 | G | A | A | A | C | C | A | C | T | G | C | G | T | C | T | C | T | T | A | T | G | T | G | G | A | C | A | C | 10774 | |
| 185 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 71854 | |
| 151 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 72861 | |
| 191 | - | - | - | - | - | - | - | - | C | T | G | C | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 74452 | |
| 174 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 155045 | |
| 541 | G | A | A | A | C | C | A | C | T | G | C | G | T | C | T | C | T | T | A | T | C | T | G | G | A | C | A | C | 156817 | |
| 224 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 619856 | |
| 245 | G | A | A | A | C | C | A | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 683480 | |
| 189 | G | G | A | G | A | C | C | A | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | G | A | G | A | C | 1291208 |
| 571 | G | T | G | C | A | G | G | C | T | G | G | T | A | T | T | T | C | A | A | C | C | A | G | A | T | T | T | - | - | consensus |
| 318 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8941 | |
| 324 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 10033 | |
| 262 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 10644 | |
| 439 | G | T | G | C | A | T | G | C | T | G | G | T | A | T | T | T | C | A | A | C | C | A | G | A | T | T | T | - | - | 10774 |
| 185 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 71854 | |
| 151 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 72861 | |
| 195 | - | - | - | - | - | - | - | - | - | - | - | - | T | A | C | T | C | - | - | - | - | - | - | - | - | - | - | - | 74452 | |
| 174 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 155045 | |
| 571 | G | T | G | C | A | G | G | C | T | G | G | T | A | T | T | T | C | A | A | C | C | A | G | A | T | T | T | - | - | 156817 |
| 224 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 619856 | |
| 252 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 683480 | |
| 202 | - | - | - | - | - | - | - | - | - | - | - | - | - | C | T | T | T | C | - | - | - | - | - | - | - | - | - | - | T | 1291208 |

Figure 2J

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------|-----------|
| 601 | G | C | T | A | T | G | C | G | G | G | C | T | G | T | G | C | T | A | C | A | G | A | G | T | A | T | G | consensus | |
| 318 | - | - | - | - | - | - | G | G | G | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8941 | |
| 324 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 10033 | |
| 262 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | T | - | 10644 | |
| 469 | G | C | T | A | T | G | C | G | G | G | C | T | G | T | G | C | T | A | C | A | G | A | G | T | A | T | G | - | 10774 |
| 185 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 71854 | |
| 151 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 72861 | |
| 200 | - | - | - | - | - | - | C | G | N | G | T | A | T | A | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 74452 |
| 174 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 155045 | |
| 601 | G | C | T | A | T | G | C | G | G | G | C | T | G | T | G | C | T | A | C | A | G | A | G | T | A | T | G | - | 156817 |
| 224 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 619856 | |
| 252 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 683480 | |
| 208 | G | C | T | - | - | - | - | - | - | G | G | C | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1291208 |
| 631 | T | G | C | T | T | A | C | C | A | A | G | C | C | T | G | G | T | G | C | T | G | A | A | G | T | A | C | C | consensus |
| 322 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8941 | |
| 324 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 10033 | |
| 262 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 10644 | |
| 499 | T | G | C | T | T | A | C | C | A | A | G | C | C | T | G | G | T | G | C | T | G | A | A | G | T | A | C | C | 10774 |
| 185 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 71854 | |
| 151 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 72861 | |
| 210 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 74452 | |
| 174 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 155045 | |
| 631 | T | G | C | T | T | A | C | C | A | A | G | C | C | T | G | G | T | G | C | T | G | A | A | G | T | A | C | C | 156817 |
| 224 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 619856 | |
| 252 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 683480 | |
| 214 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1291208 |

Figure 2K

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---------|-----------|-------|
| 661 | A | C | A | G | G | C | A | C | C | A | A | T | G | T | C | C | T | C | T | C | T | C | C | T | C | C | A | T | C | A | T | consensus | |
| 322 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8941 | | |
| 324 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 10033 | | |
| 262 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 10644 | | |
| 529 | A | C | A | G | G | C | A | C | C | A | A | T | G | T | C | C | T | C | T | C | T | C | C | T | C | C | A | T | C | A | T | 10774 | |
| 185 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 71854 | | |
| 151 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 72861 | | |
| 219 | A | T | G | G | G | C | C | C | A | A | G | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 74452 | | |
| 174 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 155045 | | |
| 661 | A | C | A | G | G | C | A | C | C | A | A | T | G | T | C | C | T | C | T | C | T | C | C | T | C | C | A | T | C | A | T | 156817 | |
| 224 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 619856 | | |
| 252 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 683480 | | |
| 224 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1291208 | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 691 | A | T | A | G | A | G | T | G | C | A | C | T | C | A | C | T | C | C | C | C | C | T | G | A | A | A | G | C | T | | | consensus | |
| 322 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8941 | | |
| 324 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 10033 | | |
| 262 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 10644 | | |
| 559 | A | T | A | G | A | G | T | G | C | A | C | T | C | A | C | T | C | C | C | C | C | T | G | A | A | A | G | C | T | | | 10774 | |
| 185 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 71854 | | |
| 151 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 72861 | | |
| 237 | A | T | G | - | - | G | T | A | - | A | C | C | A | G | C | T | C | C | T | T | C | T | G | - | - | - | - | - | - | - | - | - | 74452 |
| 174 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 155045 | | |
| 691 | A | T | A | G | A | G | T | G | C | A | C | T | C | A | C | T | C | C | C | C | C | T | G | A | A | A | G | C | T | | | 156817 | |
| 224 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 619856 | | |
| 252 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 683480 | | |
| 227 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1291208 | | |

Figure 2L

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---------|-----------|---------|-----------|
| 721 | A | T | C | T | G | A | C | A | G | A | G | A | G | A | T | A | T | G | T | A | G | T | G | T | G | A | consensus | | |
| 322 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8941 | | | |
| 324 | | | | | | | | | | | | | | | | | | | | | | | | | | 10033 | | | |
| 262 | | | | | | | | | | | | | | | | | | | | | | | | | | 10644 | | | |
| 589 | A | T | C | T | G | A | C | A | G | A | G | A | G | A | T | A | T | G | T | A | G | T | G | T | G | A | 10774 | | |
| 185 | | | | | | | | | | | | | | | | | | | | | | | | | | 71854 | | | |
| 151 | | | | | | | | | | | | | | | | | | | | | | | | | | 72861 | | | |
| 259 | G | C | C | A | G | A | G | C | N | A | C | G | G | C | - | - | - | - | - | T | G | C | A | A | C | - | 74452 | | |
| 174 | | | | | | | | | | | | | | | | | | | | | | | | | | 155045 | | | |
| 721 | A | T | C | T | G | A | C | A | G | A | G | A | G | A | T | A | T | G | T | A | G | T | G | T | G | A | 156817 | | |
| 224 | | | | | | | | | | | | | | | | | | | | | | | | | | 619856 | | | |
| 252 | | | | | | | | | | | | | | | | | | | | | | | | | | 683480 | | | |
| 241 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1291208 | | | |
| 751 | A | G | T | C | C | C | C | A | T | T | G | T | C | C | T | C | A | G | C | C | T | G | T | A | A | C | T | C | consensus |
| 322 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8941 | | |
| 324 | | | | | | | | | | | | | | | | | | | | | | | | | | | 10033 | | |
| 262 | | | | | | | | | | | | | | | | | | | | | | | | | | | 10644 | | |
| 619 | A | G | T | C | C | C | C | A | T | T | G | T | T | C | C | T | A | G | N | C | T | G | T | A | A | C | T | C | 10774 |
| 185 | | | | | | | | | | | | | | | | | | | | | | | | | | | 71854 | | |
| 151 | | | | | | | | | | | | | | | | | | | | | | | | | | | 72861 | | |
| 279 | A | N | T | G | C | C | - | - | T | T | T | N | T | - | - | - | - | G | T | C | T | G | T | N | - | - | - | C | 74452 |
| 174 | | | | | | | | | | | | | | | | | | | | | | | | | | | 155045 | | |
| 751 | A | G | T | C | C | C | C | A | T | T | G | T | C | C | T | C | A | G | C | C | T | G | T | A | A | C | T | C | 156817 |
| 224 | | | | | | | | | | | | | | | | | | | | | | | | | | | 619856 | | |
| 252 | | | | | | | | | | | | | | | | | | | | | | | | | | | 683480 | | |
| 241 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | T | C | T | G | - | - | - | - | - | - | 1291208 | |

Figure 2M

| | | |
|-----|---|-----------|
| 781 | C C C G T G T G - C C T A T A A G A G T T A A T A G A G | consensus |
| 327 | | 8941 |
| 324 | | 10033 |
| 262 | | 10644 |
| 649 | C C - G T G T G G C C T A T A A N G A A G T T A A T N G N G | 10774 |
| 185 | | 71854 |
| 151 | | 72861 |
| 298 | C C T - - - T G A C C - - - - A A T C T N A C T G A G | 74452 |
| 174 | | 155045 |
| 781 | C C C G T G T G - C C T A T A A G A A G T T A A T A G A G | 156817 |
| 224 | | 619856 |
| 252 | | 683480 |
| 247 | - - - G T G C | 1291208 |
| 810 | C A C T C G A G | consensus |
| 327 | | 8941 |
| 324 | | 10033 |
| 262 | | 10644 |
| 678 | C A A N N A N A A G A A A A A A | 10774 |
| 185 | | 71854 |
| 151 | | 72861 |
| 318 | - - - - - - - - - - A A T N G C C T G A T T | 74452 |
| 174 | | 155045 |
| 810 | C A A A A A A A A A A A A A A A A A A A C T C G A G | 156817 |
| 224 | | 619856 |
| 252 | | 683480 |
| 250 | | 1291208 |

Figure 2N

1 MRLSRRPETFLLAFVLLCTLLGLGCP LHCE GIPL aa
 1 M[K-----Y]LH[TIC]LL[FIFVAR]G[NSRSC]D CNF aa

 31 ICTAAGSRCHGQMKTCSDDKDTCVLLVGKA GIPL aa
 24 [F]C[HNI]G[KD]C[D]GYEEECSSP[E]D[V]C[GKVLLEI] CNF aa

 61 TSKGKELVHTYKGCIRSQDCYSGVISTTMG GIPL aa
 54 [S]S[A]SLSVRTVH[KN]C[F]S[S]SIC[KL]G[QFDVNI]G CNF aa

 91 PKDHMVTSSTFCQSDGCNS-[AFLSVPLTNL] GIPL aa
 84 [H]H[S]YIRGRINCC[E]KELC[E]DQPF[PGL]PLSK- CNF aa

 120 TENGLMCPACTASF RDKCKMGPMTHCTGKEN GIPL aa
 113 [-]P[NGY]YCP[GAI]GLF[T]KDS TEYEAI C[KGT]ET CNF aa

 150 HCVSLSGHVQAGIFKPP--RFAMRGCA TESM GIPL aa
 142 [K]C[I]NIVGH[-RYEQ]FP[GD]ISYNLKG[CVSS--] CNF aa

 178 CFTKPGAEVPTGTNVLFLLHHIECTHSP GIPL aa
 169 CPLLSSLNATFEQ[NRNYL]E[KV]ECKDAIRLA CNF aa

 204
 199 SL GIPL aa
 CNF aa

Figure 3

T09090*0255Z860

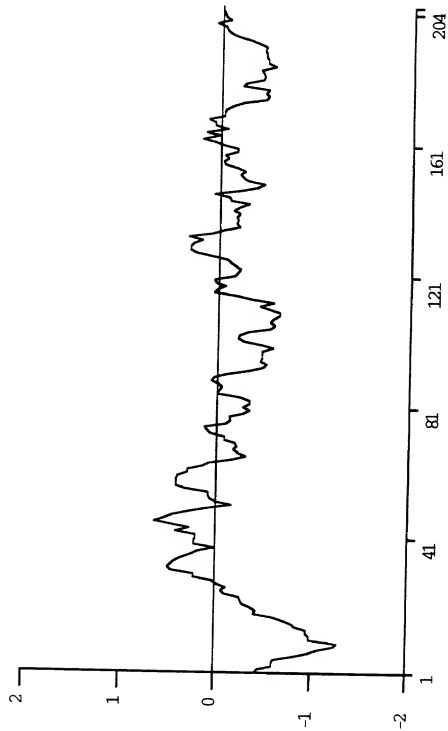


FIGURE 4

109090-0255280

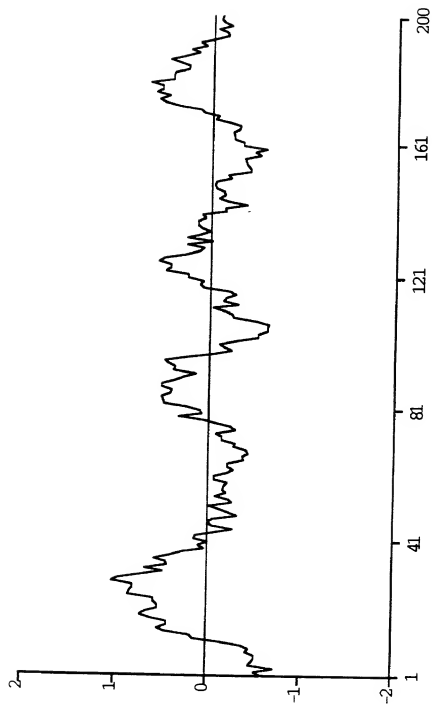
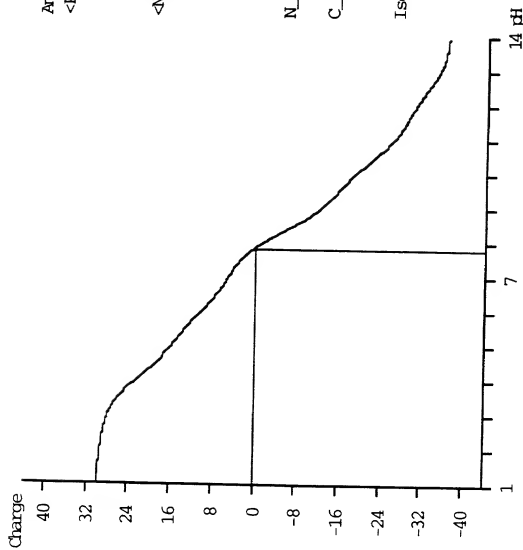


FIGURE 5



| Amino Acid | Number | pKa |
|------------------------|---------|------|
| <Positive> | | |
| Arg (R) | 8 | 12.5 |
| His (H) | 10 | 6.0 |
| Lys (K) | 11 | 10.5 |
| <Negative> | | |
| Asp (D) | 6 | 3.9 |
| Cys (C) | 20 | 8.3 |
| Glu (E) | 8 | 4.3 |
| Tyr (Y) | 2 | 10.1 |
| N_terminal | Met (M) | 9.3 |
| C_terminal | Pro (P) | 2.0 |
| Isoelectric point [pI] | | 7.83 |

FIGURE 6

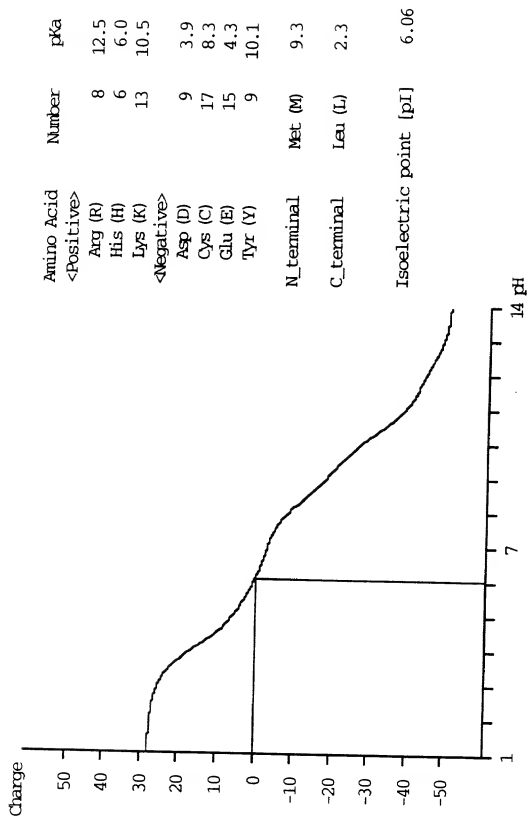


FIGURE 7

5' NCA ATG GGC CGG CCG TGG GAA GGG TGA ATG TGG GTC CAG ACC CGC CCC TCC TCA
 9 18 27 36 45 54
 GCT TCC TAT AAA AGC TGG GGA CCA GGT ACT GCT GAT ACA CAC ACC ATG AGG CTC
 63 72 81 90 99 108
 TCC AGG AGA CCA GAG ACC TTT CTG CTG GCC TTT GTG TTG CTC TGC ACC CTC CTG
 117 126 135 144 153 162
 S R R P E T F L L A F V L L C T L L
 GGT CTT GGG TGC CCA CTA CAC TGC GAA ATA TGT ACG GCG GCG GGG AGC AGG TGC
 171 180 189 198 207 216
 G L G C P L H C E I C T A A G S R C
 CAT GGC CAA ATG AAG ACC TGC AGC AGT GAC AAG GAC ACA TGT GTG CTC CTG GTC
 225 234 243 252 261 270
 H G Q M K T C S S D K D T C V L L V
 GGG AAG GCT ACT TCA AAG GGC AAG GAG TTG GTG CAC ACC TAC AAG GGC TGC ATC
 279 288 297 306 315 324
 G K A T S K G K E L V H T Y K G C I
 AGG TCC CAG GAC TGC TAC TCC GGC GTT ATA TCC ACC ACC ATG GGC CCC AAG GAC
 333 342 351 360 369 378
 R S Q D C Y S G V I S T T M G P K D
 CAC ATG GTA ACC AGC TCC TTC TGC TGC CAG AGC GAC GGC TGC AAC AGT GCC TTT
 387 396 405 414 423 432
 H M V T S S F C C Q S D G C N S A F
 TTG TCT GTT CCC TTG ACC AAT CTT ACT GAG AAT GGC CTG ATG TGC CCC GCC TGC
 441 450 459 468 477 486
 L S V P L T N L T E N G L M C P A C
 ACT GCG AGC TTC AGG GAC AAA TGC ATG GGG CCC ATG ACC CAC TGT ACT GGA AAG
 495 504 513 522 531 540
 T A S F R D K C M G P M T H C T G K

FIGURE 1A

| | | | | | | | | | | | | | | |
|-------------------------------------|-----|---------|---------|-----|---------|-----|---------|---------|-----|---------|-----|---------|-----|---------|
| GAA AAC | 549 | CAC TGC | GTC TCC | 558 | TGA TCT | 567 | GGA CAC | GTG CAG | 376 | GCT GGT | 585 | ATT TTC | 594 | AAA CCC |
| E N H C V S L S G H V Q A G I F K P | | | | | | | | | | | | | | |
| AGA TTT | 603 | GCT ATG | CGG GGC | 612 | TGT GCT | 621 | ACA GAG | AGT ATG | 630 | TGC TTT | 639 | ACC AAG | 648 | CCT GGT |
| R F A M R G C A T E S M C F T K P G | | | | | | | | | | | | | | |
| GCT GAA | 657 | GTA CCC | ACA GGC | 666 | ACC AAT | 675 | GTC CTC | TTC CTC | 684 | CAT CAT | 693 | ATA GAG | 702 | TOC ACT |
| A E V P T G T N V L F L H H I E C T | | | | | | | | | | | | | | |
| CAC TCC | 711 | CCC TGA | AAA GCT | 720 | ATC TGA | 729 | ACA GAG | GAA GAT | 738 | AAT GTA | 747 | GTG TGA | 756 | AGT CCC |
| H S P | | | | | | | | | | | | | | |
| CAT TTG | 765 | TCC TCA | GCC TGT | 774 | AAC TTC | 783 | CCC GTG | TGC CTA | 792 | TAA AGA | 801 | AGT TAA | 810 | TAG AGC |
| | | | | | | | | | | | | | | |
| AAA AAA | 819 | AAA AAA | AAA AAA | 828 | AAA AAC | 837 | TCG AG | 3' | | | | | | |

FIGURE 1B

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------|-----------|
| 1 | N | C | A | A | T | G | G | G | C | C | G | G | C | C | G | T | G | G | A | A | G | G | G | T | G | A | A | T | G | consensus | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8941 | |
| 1 | G | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 10033 | |
| 1 | G | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 10644 | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 10774 | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 71854 | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 72861 | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 74452 | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 155045 | |
| 1 | N | C | A | A | T | G | G | G | C | C | G | G | C | C | G | T | G | G | A | A | G | G | G | T | G | A | A | T | G | 156817 | |
| 1 | A | G | A | A | A | G | A | G | A | C | C | A | T | N | C | C | A | G | G | A | A | - | - | G | T | - | - | - | T | G | 619856 |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 683480 | |
| 1 | G | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1291208 | |
| 31 | T | G | G | G | T | C | C | A | G | A | C | C | G | C | C | C | T | C | C | T | C | A | G | C | T | T | C | C | - | consensus | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8941 | |
| 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 10033 | |
| 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 10644 | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 10774 | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 71854 | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 72861 | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 74452 | |
| 5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 155045 | |
| 31 | T | G | G | G | T | C | C | A | G | A | C | C | G | C | C | C | T | C | C | T | C | A | G | C | T | T | C | C | - | 156817 | |
| 25 | T | G | G | G | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 619856 | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 683480 | |
| 5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1291208 | |
| 51 | T | A | T | A | A | A | A | G | C | T | G | G | G | G | A | C | C | A | G | G | T | A | C | T | G | C | T | G | A | T | consensus |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8941 | |
| 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 10033 | |
| 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 10644 | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 10774 | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 71854 | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 72861 | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 74452 | |
| 15 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 155045 | |
| 51 | T | A | T | A | A | A | A | G | C | T | G | G | G | G | A | C | C | A | G | G | T | A | C | T | G | C | T | G | A | T | 156817 |
| 30 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 619856 | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 683480 | |
| 15 | T | G | C | A | G | C | C | A | C | T | G | G | G | A | A | T | C | A | A | G | - | - | - | - | - | - | - | - | - | - | 1291208 |

FIGURE 2A

```

91  A C A C A C A C C A T G A G G G C T C T C C A G G A G A C C A consensus
6   - - - - - C C T A G G G T T - - - - - A G G C - - 8941
2   - - - - - - - - - - - - - - - - - - - 10033
2   - - - - - - - - - - - - - - - - - - - 10644
1   - - - - - - - - - - - - - - - - - - - 10774
1   - - - - - - - - - - - - - - - - - - - 71854
1   - - - - - - - - - - - - - - - - - - - 72861
1   - - - - - - - - - - - - - - - - - - - 74452
15  - - - - - - - - - - - - - - - - - - - 155045
91  A C A C A C A C C A T G A G G G C T C T C C A G G A G A C C A 156817
40  - - - - - C C T A G G G T T - - - - - A G G C - - 619856
1   - - - - - - - - - - - - - - - - - - - 683480
36  - - - - - - - - - - - - - - - - - - - 1291208

```

FIGURE 2B

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---------|-----------|-----------|
| 121 | G | A | G | A | C | C | T | T | T | C | T | G | C | T | G | G | C | C | T | T | G | T | G | T | G | C | T | C | consensus | |
| 19 | A | A | G | A | C | C | T | T | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8941 | | |
| 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 10033 | | |
| 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 10644 | | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 10774 | | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 71854 | | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 72861 | | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 74452 | | |
| 15 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 155045 | | |
| 121 | G | A | G | A | C | C | T | T | T | C | T | G | C | T | G | G | C | C | T | T | G | T | G | T | T | G | C | T | C | |
| 53 | A | A | G | A | C | C | T | T | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 156817 | | |
| 42 | A | A | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 619856 | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | 683480 | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1291208 | | |
| 151 | T | G | C | A | C | C | T | C | C | T | G | G | G | T | C | T | T | G | G | G | T | G | C | C | A | C | T | A | consensus | |
| 27 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8941 | | |
| 8 | T | N | C | A | C | C | T | C | C | T | G | G | G | T | C | T | T | G | G | G | T | G | C | C | A | C | T | A | 10033 | |
| 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 10644 | | |
| 19 | T | G | C | A | C | C | T | C | C | T | G | G | G | T | C | T | T | G | G | G | T | G | C | C | A | C | T | A | 10774 | |
| 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 71854 | | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 72861 | | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 74452 | | |
| 20 | T | - | C | A | C | C | C | T | C | C | N | G | G | G | T | C | T | N | G | G | G | T | G | C | C | A | C | N | A | |
| 151 | T | G | C | A | C | C | T | C | C | T | G | G | G | T | C | T | T | G | G | G | T | G | C | C | A | C | T | A | 155045 | |
| 61 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 156817 | | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 619856 | | |
| 47 | C | G | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 683480 | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1291208 | | |
| 181 | C | A | C | T | G | C | G | A | A | A | T | A | T | G | T | A | C | G | G | C | G | G | C | G | G | G | A | G | C | consensus |
| 38 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8941 | | |
| 38 | C | A | C | T | G | C | G | A | A | A | T | A | T | G | T | A | C | G | G | C | G | G | C | G | G | G | A | G | C | 10033 |
| 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 10644 | | |
| 49 | C | A | C | T | G | C | G | A | A | A | T | A | T | G | T | A | C | G | G | C | G | G | C | G | G | G | A | G | C | 10774 |
| 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 71854 | | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 72861 | | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 74452 | | |
| 49 | C | A | C | T | G | C | G | A | A | N | T | A | T | G | T | A | C | G | G | C | G | G | C | G | G | G | T | A | G | 155045 |
| 181 | C | A | C | T | G | C | G | A | A | A | T | A | T | G | T | A | C | G | G | C | G | G | C | G | G | G | A | G | C | 156817 |
| 72 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 619856 | | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 683480 | | |
| 71 | N | N | N | N | N | N | N | C | A | A | T | G | G | G | C | - | C | G | G | C | C | G | T | G | G | A | A | G | - | 1291208 |

FIGURE 2C

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------|---------|---|
| 211 | A | G | G | T | G | C | C | A | T | G | G | C | A | A | A | T | G | A | A | G | A | C | C | T | G | C | A | G | C | consensus | | |
| 51 | - | - | - | - | - | - | - | T | G | G | T | C | A | G | C | - | - | - | - | - | - | - | - | - | - | - | C | A | G | C | | |
| 68 | A | G | G | T | G | C | C | A | T | G | G | C | C | A | A | A | T | G | A | A | G | A | C | C | T | G | C | A | G | C | 10033 | |
| 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 10644 | | |
| 79 | A | G | G | T | G | C | C | A | T | G | G | C | C | A | A | A | T | G | A | A | G | A | C | C | T | G | C | A | G | C | 10774 | |
| 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 71854 | | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 72861 | | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 74452 | | |
| 79 | A | G | G | T | T | C | C | A | T | G | N | C | C | A | A | A | T | N | A | A | G | A | N | C | T | T | C | A | N | C | 153045 | |
| 211 | A | G | G | T | G | C | C | A | T | G | G | C | C | A | A | A | T | G | A | A | G | A | C | C | T | G | C | A | G | C | 156817 | |
| 85 | - | - | - | - | - | - | - | T | G | G | T | C | A | G | C | - | - | - | - | - | - | - | - | - | - | - | - | C | A | G | C | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 619856 | | |
| 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 683480 | | |
| 99 | - | G | G | T | G | - | - | - | - | - | - | - | - | - | - | - | A | A | T | G | T | G | G | G | T | C | - | - | C | A | G | - |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1291208 | |

FIGURE 2D

241 A G T G A C A A G G A C A C A T G T G T G C T C C T G G T C consensus
 53 A C T G T C - - - - - C C T G C C T G T C C C C A - T C 8941
 98 A G T G A C A A G G A C A C A T G T G T G C T C C T G G T C 10033
 2 - - - - - - - - - A C A C A T G T G T G C T C C T G G T C 10644
 109 A G T G A C A A G G A C A C A T G T G T G C T C C T G G T C 10774
 3 - - - - - A A G G A C A C A T G T G T G C T C C T G G T C 71854
 1 - 72861
 1 - 74452
 109 N G T G A C A A G G A C A C A T G T N T G C T C C T G G T C 155045
 241 A G T G A C A A G G A C A C A T G T G T G C T C C T G G T C 156817
 97 A C T G T C - - - - - C C T G C C T G T C C C C A - T C 619856
 1 - 683480
 116 - - - - - - - - - - - A C C C G C C C C T C C T C 1291208

 271 G G G A A G G C T A C T T C A A A G G G C A A G G A G T T G consensus
 85 - - - - - C C A - - - C A G A G G G C A A G G A G T T G 8941
 128 G G G A A G G C T A C T T C A A A G G G C A A G G A G T T G 10033
 22 G G G A A G G C T A C T T C A A A G G G C A A G G A G T T G 10644
 139 G G G A A G G C T A C T T C A A A G G G C A A G G A G T T G 10774
 3 - - - - - - - - - T - - - - - - - - - - - - - 71854
 1 - 72861
 1 - 74452
 139 G G N A A G N C T A C T T C A A A G G G C A A G G A G T T G 155045
 271 G G G A A G G C T A C T T C A A A G G G C A A G G A G T T G 156817
 119 - - - - - C C A - - - C A G A G G G C A A G G A G T T G 619856
 1 - 683480
 130 A G - - - - - C T T C - - - - - - - - - - - - - 1291208

 301 G T G C A C A C C T A C A A G G G C T G C A T C A G G T C C consensus
 105 G T G C A C A C C T A C A A G G G C T G C A T C A G G T C C 8941
 158 G T G C A C A C C T A C A A G G G C T G C A T C A G G T C C 10033
 52 G T G C A C A C C T A C A A G G G C T G C A T C A G G T C C 10644
 159 G T G C A C A C C T A C A A G G G C T G C A T C A G G T C C 10774
 3 - 71854
 5 G T G C A C A C C T A C A A G G G C T G C A T C A G G T C C 72861
 1 - 74452
 169 G T G C A C - - - - - - - - - - - - - - - - - 155045
 301 G T G C A C A C C T A C A A G G G C T G C A T C A G G T C C 156817
 139 G T G C A C A C C T A C A A G G G C T G C A T C A G G T C C 619856
 5 G T G C A C A C C T A C A A G G G C T G C A T C A G G T C C 683480
 136 - - - - - C T A T A A A A G C T G - - - - - - - - - 1291208

FIGURE 2E

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------|-----------|---------|--------|--------|
| 351 | A | C | C | A | T | G | G | G | C | C | C | A | A | G | G | A | C | C | A | C | A | T | G | G | T | A | A | C | C | consensus | | | | |
| 155 | A | C | C | A | T | G | G | G | C | C | C | C | A | A | G | G | A | C | C | A | C | A | T | G | G | T | A | A | C | C | 8941 | | | |
| 218 | A | C | C | A | T | G | G | G | C | C | C | C | C | A | A | G | G | A | C | C | A | C | A | T | G | G | T | A | A | C | C | 10033 | | |
| 112 | A | C | C | A | T | G | G | G | C | C | C | C | C | A | A | G | G | A | C | C | A | C | A | T | G | G | T | A | A | C | C | 10544 | | |
| 229 | A | C | C | A | T | G | G | G | C | C | C | C | C | C | A | A | G | G | A | C | C | A | C | A | T | G | G | T | A | A | C | C | 10774 | |
| 20 | A | C | C | A | T | G | G | G | C | C | C | C | C | C | A | A | G | G | A | C | C | A | C | A | T | G | G | T | A | A | C | C | 71854 | |
| 53 | A | C | C | A | T | G | G | G | C | C | C | C | C | C | C | A | A | G | G | A | C | C | A | C | A | T | G | G | T | A | A | C | C | 72861 |
| 20 | A | C | C | A | T | G | G | G | C | C | C | C | C | C | C | A | A | G | G | A | C | C | A | C | A | T | G | G | T | A | A | C | C | 74452 |
| 174 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 155045 | | |
| 351 | A | C | C | A | T | G | G | G | C | C | C | C | C | C | A | A | G | G | A | C | C | A | C | A | T | G | G | T | A | A | C | C | 156817 | |
| 139 | A | C | C | A | T | G | G | G | C | C | C | C | C | C | C | A | A | G | G | A | C | C | A | C | A | T | G | G | T | | | | 619856 | |
| 53 | A | C | C | A | T | G | G | G | N | C | C | C | C | C | C | A | A | G | G | A | C | C | A | C | A | T | G | G | T | A | A | C | C | 683480 |
| 148 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1291208 | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 391 | A | G | C | T | C | C | T | T | C | T | G | C | T | G | C | C | A | G | A | G | C | G | A | C | G | G | C | T | G | C | consensus | | | |
| 195 | A | G | C | T | C | C | T | T | C | T | G | N | T | G | C | C | A | G | A | G | C | G | A | C | G | G | C | T | G | C | 8941 | | | |
| 248 | A | G | C | T | C | C | T | T | C | T | G | C | T | G | C | - | A | G | A | G | C | G | A | C | G | G | C | T | G | C | 10033 | | | |
| 142 | A | G | C | T | C | C | T | T | C | T | G | C | T | G | C | C | A | G | A | G | C | G | A | C | G | G | C | T | G | C | 10544 | | | |
| 259 | A | G | C | T | C | C | T | T | C | T | G | C | T | G | C | C | A | G | A | G | C | G | A | C | G | G | C | T | G | C | 10774 | | | |
| 50 | A | G | C | T | C | C | T | T | C | T | G | C | T | G | C | C | A | G | A | G | C | G | A | C | G | G | C | T | G | C | 71854 | | | |
| 95 | A | G | C | T | C | C | T | T | N | T | G | C | T | G | C | C | A | G | A | G | C | G | A | C | G | G | C | T | G | C | 72861 | | | |
| 50 | A | G | C | T | C | C | T | T | C | T | G | C | T | G | C | C | A | G | A | G | C | G | A | C | G | G | C | T | G | C | 74452 | | | |
| 174 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 155045 | | | | |
| 391 | A | G | C | T | C | C | T | T | C | T | G | C | T | G | C | C | A | G | A | G | C | G | A | C | G | G | C | T | G | C | 156817 | | | |
| 224 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 619856 | | | | |
| 95 | A | G | C | T | C | C | T | T | N | T | G | C | T | G | C | C | A | G | A | G | C | G | A | C | G | N | C | T | G | C | 683480 | | | |
| 159 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1291208 | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 421 | A | A | C | A | G | T | G | C | C | T | T | T | T | T | G | T | C | T | G | T | T | C | C | C | T | T | G | A | C | C | consensus | | | |
| 225 | A | A | C | A | G | T | G | C | C | T | T | T | T | T | G | T | C | T | G | T | T | C | C | C | T | T | G | A | C | C | 8941 | | | |
| 277 | A | A | C | A | G | T | G | C | C | T | T | T | T | T | G | T | C | T | G | T | T | C | C | C | T | T | G | A | C | C | 10033 | | | |
| 172 | A | A | C | A | G | T | G | C | C | T | T | T | T | T | G | T | C | T | G | T | T | C | C | C | T | T | G | A | C | C | 10544 | | | |
| 289 | A | A | C | A | G | T | G | C | C | T | T | T | T | T | G | T | C | T | G | T | T | C | C | C | T | T | G | A | C | C | 10774 | | | |
| 30 | A | A | C | A | N | T | G | C | C | T | T | T | T | T | N | T | N | T | N | T | G | T | T | C | C | C | T | T | G | A | C | C | 71854 | |
| 125 | A | A | C | A | T | T | G | C | C | T | T | T | T | T | N | T | N | T | N | T | G | T | N | C | C | C | T | T | G | | | 72861 | | |
| 80 | A | A | C | A | N | T | G | C | C | T | T | T | T | T | N | T | N | T | N | T | G | T | T | C | C | C | T | T | G | A | C | C | 74452 | |
| 174 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 155045 | | | | |
| 421 | A | A | C | A | G | T | G | C | C | T | T | T | T | T | G | T | C | T | G | T | T | C | C | C | T | T | G | A | C | C | 156817 | | | |
| 224 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 619856 | | | | |
| 125 | A | A | C | A | G | T | G | C | C | T | T | T | T | T | G | T | C | T | G | T | T | C | C | C | C | T | T | G | A | C | C | 683480 | | |
| 153 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1291208 | | | | |

FIGURE 2G

| | | |
|-----|---|-----------|
| 451 | A A T C T T A C T G A G A A T G G C C T G A T G T G C C C C | consensus |
| 255 | A A T C T T A C T G A G A A T G G C C C T G A T G T G C C C N | 8941 |
| 307 | A A T C T T A C T G A G A A T G G T | 10033 |
| 202 | A A T N T T A C T G A G A A T N G N C T G A T G T G C C C C | 10644 |
| 319 | A A T C T T A C T G A G A A T G G C C C T G A T G T G C C C C | 10774 |
| 110 | A A T C T T A C T G A G A A T G G C C C T G A T G T G C C C C | 71854 |
| 151 | | 72861 |
| 110 | A A T C T T A C T G A G A A T G G C C C T G A T G T G C C C C | 74452 |
| 174 | | 155045 |
| 451 | A A T C T T A C T G A G A A T G G C C C T G A T G T G C C C C | 156817 |
| 224 | | 619856 |
| 155 | A A T C T T A C T G A G A A T G G C C C T G A T G T G C C C C | 683480 |
| 163 | - - - - - - - - - - - - - - - T G A T A C A C - - - | 1291208 |

FIGURE 2H

| | | |
|-----|---|-----------|
| 481 | G C C T G C A C T G C G A G C T T C A G G G A C A A A T G C | consensus |
| 285 | G C - T G C A C T G C G A G T T T N A G G G N C A A A - - - | 8941 |
| 324 | | 10033 |
| 232 | G N C T G C A C T G N G A G C T T C A G G G A C A A A T G C | 10644 |
| 349 | G C C T G C A C T G C G A G C T T C A G G G A C A A A T G C | 10774 |
| 140 | G C C T G C A C T G C G A G C T T C A G G G A C A A A T G C | 71854 |
| 151 | | 72861 |
| 140 | G C C T G C A C T G C G A G C T T C A G G G A C A A A T G C | 74452 |
| 174 | | 155045 |
| 481 | G C C T G C A C T G C G A G C T T C A G G G A C A A A T G C | 156817 |
| 224 | | 619856 |
| 185 | G N C T G C A C T G C G A G C T T N A G G G A C A A A T G C | 683480 |
| 171 | - - - - A C A C - - - - - - - - - - - - - - - - - - C | 1291208 |
| 511 | A T G G G G C C C A T G A C C C A C T G T A C T G G A A A G | consensus |
| 311 | - - - - - A T N C A T G - - - - - - - - - - - - - - - - - - | 8941 |
| 324 | | 10033 |
| 252 | - | 10644 |
| 379 | A T G G G G C C C A T G A C C C A C T G T A C T G G A A A G | 10774 |
| 170 | A T G G G G C C C A T G A C C C | 71854 |
| 151 | | 72861 |
| 170 | A T G G G G C C C A T G A C C C - - - - - C A G G A - - - | 74452 |
| 174 | | 155045 |
| 511 | A T G G G G C C C A T G A C C C A C T G T A C T G G A A A G | 156817 |
| 224 | | 619856 |
| 215 | A T G G G G C C C A T G A C C C A C T G T A C T G G A G A G | 683480 |
| 176 | A T G A G G C T C - - - - T C C A - - - - - - - - - - - - - | 1291208 |
| 541 | G A A A A C C A C T G C G T C T C C T T A T C T G G A C A C | consensus |
| 318 | - | 8941 |
| 324 | | 10033 |
| 252 | - | 10644 |
| 409 | G A A A A C C A C T G C G T C T C C T T A T G T G G A C A C | 10774 |
| 185 | | 71854 |
| 151 | | 72861 |
| 191 | - - - - - - - C T G C - - - - - - - - - - - - - - - - - - | 74452 |
| 174 | | 155045 |
| 541 | G A A A A C C A C T G C G T C T C C T T A T C T G G A C A C | 156817 |
| 224 | | 619856 |
| 245 | G A A A A C C A | 683480 |
| 189 | G G A G A C C A - - - - - - - - - - - - - - - - - - G A G A C | 1291208 |

FIGURE 21

| | | |
|-----|---|-----------|
| 571 | G T G C A G G C T G G T A T T T T C A A A C C C A G A T T T | consensus |
| 318 | - - - - - | 8941 |
| 324 | - - - - - | 10033 |
| 252 | - - - - - | 10644 |
| 439 | G T G C A T G C T G G T A T T T T C A A A C C C A G A T T T | 10774 |
| 185 | - - - - - | 71854 |
| 151 | - - - - - | 72861 |
| 195 | - - - - - T A C T C - - - - - | 74452 |
| 174 | - - - - - | 155045 |
| 571 | G T G C A G G C T G G T A T T T T C A A A C C C A G A T T T | 156817 |
| 224 | - - - - - | 619856 |
| 252 | - - - - - | 683480 |
| 202 | - - - - - C T T T C - - - - - T | 1291208 |

FIGURE 2J

| | | |
|-----|---|-----------|
| 601 | G C T A T G C G G G G C T G T G C T A C A G A G A G T A T G | consensus |
| 313 | - - - - - G G G G - - - - - | 8941 |
| 324 | - - - - - | 10033 |
| 252 | - - - - - T | 10644 |
| 459 | G C T A T G C G G G G C T G T G C T A C A G A G A G T A T G | 10774 |
| 185 | - - - - - | 71854 |
| 151 | - - - - - | 72861 |
| 200 | - - - - - C G G N G T T A T A - - - - - | 74452 |
| 174 | - - - - - | 155045 |
| 601 | G C T A T G C G G G G C T G T G C T A C A G A G A G T A T G | 156817 |
| 224 | - - - - - | 619856 |
| 252 | - - - - - | 683480 |
| 208 | G C T - - - - - G G C - - - - - | 1291208 |
| 631 | T G C T T T A C C A A G C C T G G T G C T G A A G T A C C C | consensus |
| 322 | - - - - - | 8941 |
| 324 | - - - - - | 10033 |
| 262 | - - - - - | 10644 |
| 499 | T G C T T T A C C A A G C C T G G T G C T G A A G T A C C C | 10774 |
| 185 | - - - - - | 71854 |
| 151 | - - - - - | 72861 |
| 210 | - - - T C C A C C A - - - - - C C | 74452 |
| 174 | - - - - - | 155045 |
| 631 | T G C T T T A C C A A G C C T G G T G C T G A A G T A C C C | 156817 |
| 224 | - - - - - | 619856 |
| 252 | - - - - - | 683480 |
| 214 | - - C T T T - - - - - G T G T T G - - - - - | 1291208 |
| 661 | A C A G G C A C C A A T G T C C T C T T C C T C C A T C A T | consensus |
| 322 | - - - - - | 8941 |
| 324 | - - - - - | 10033 |
| 262 | - - - - - | 10644 |
| 529 | A C A G G C A C C A A T G T C C T C T T C C T C C A T C A T | 10774 |
| 185 | - - - - - | 71854 |
| 151 | - - - - - | 72861 |
| 219 | A T G G G C C C C A A G G - - - - - A C C A C | 74452 |
| 174 | - - - - - | 155045 |
| 661 | A C A G G C A C C A A T G T C C T C T T C C T C C A T C A T | 156817 |
| 224 | - - - - - | 619856 |
| 252 | - - - - - | 683480 |
| 224 | - - - - - C T C - - - - - | 1291208 |

FIGURE 2K

721 A T C T G A A C A G A G G A A G A T A A T G T A G T G T G A consensus
 322 - - - - - 8941
 324 10033
 262 10644
 589 A T C T G A A C A G A G G A A G A T A A T G T A G T G T G A 10774
 185 71854
 151 72861
 259 G C C A G A G C N A C G G C - - - - - T G C A A C - - - - 74452
 174 155045
 721 A T C T G A A C A G A G G A A G A T A A T G T A G T G T G A 156817
 224 619856
 252 683480
 241 - - - - - 1291208

 751 A G T C C C C A T T T G T C C T C A G C C T G T A A C T T C consensus
 322 - - - - C C C A T T 8941
 324 10033
 262 10644
 619 A G T C C C C A T T T G T T C C T A G N C T G T A A C T T C 10774
 185 71854
 151 72861
 279 A N T G C C - - T T T N T - - - - - G T C T G T N - - - - C 74452
 174 155045
 751 A G T C C C C A T T T G T C C T C A G C C T G T A A C T T C 156817
 224 619856
 252 683480
 241 - - - - - T C T T G G - - - - - 1291208

 781 C C C G T G T G - C C T A T A A A G A A G T T A A T A G A G consensus
 327 8941
 324 10033
 262 10644
 649 C C - G T G T G G C C T A T A A N G A A G T T A A T N G N G 10774
 185 71854
 151 72861
 298 C C T - - - T G A C C - - - - - A A T C T N A C T G A G 74452
 174 155045
 781 C C C G T G T G - C C T A T A A A G A A G T T A A T A G A G 156817
 224 619856
 252 683480
 247 - - - G T G C 1291208

FIGURE 2M

1 MRLSRRRPETFLLAFVLLCTLLGLGCPLHCE GIPL aa
 1 M(K-----Y)LHTIQLL(FIFVAR)G(NSRSS)C(D) CNF aa
 31 ICTAAGSRCHGQMKTCSSSDKDTCVLLVGXA GIPL aa
 24 (F)C(HN)I(GK)D(C)D(GYEEE)CSS(RF)D(V)C(GKVLLLE)I CNF aa
 51 TSKGKELVHTYKGCIRSQDCYSGVISTTHG GIPL aa
 54 (S)S(ASLSVRTVH)K(N)C(FS)S(S)C(K)I(G)Q(FDVNI)G CNF aa
 91 PKDHMTSSFC CQSDGCNS-AFLSVPLTNL GIPL aa
 94 (H)H(SYIRGRIN)C C(EKEL)C(EDQ)P(FGL)PL(SK-) CNF aa
 120 TENGLMCPACTASFRDKCMGPMTHCTGKEN GIPL aa
 113 (-)P(NG)Y(Y)C P(GAIGL)F(TKDS TEYEAT)C(KG)T(E)T CNF aa
 150 HCVSLSGHHVOAGIFKP--RFAMRGCATESM GIPL aa
 142 (K)C(I)N(I)V(GH)C(-RYEQ)F(PGD)I(SYNL)K(GC)V(SS--) CNF aa
 178 CFTKPGA EVPTGTNVLF LHHIECTHSP GIPL aa
 169 C(PLLSLSNATFEQ)N(RNV)LEKVECKDAIRLA CNF aa
 204 SL GIPL aa
 199 SL CNF aa

FIGURE 3

00870520.000001
10009.00000000

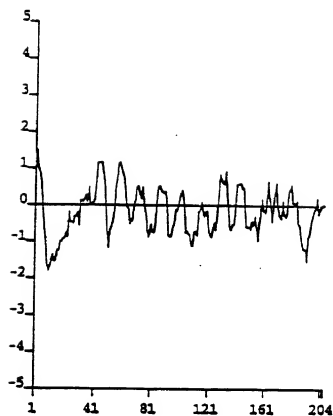


FIGURE 4

00075520.060601

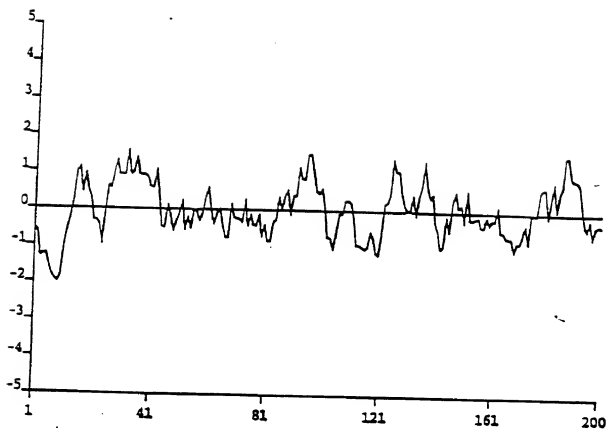


FIGURE 5

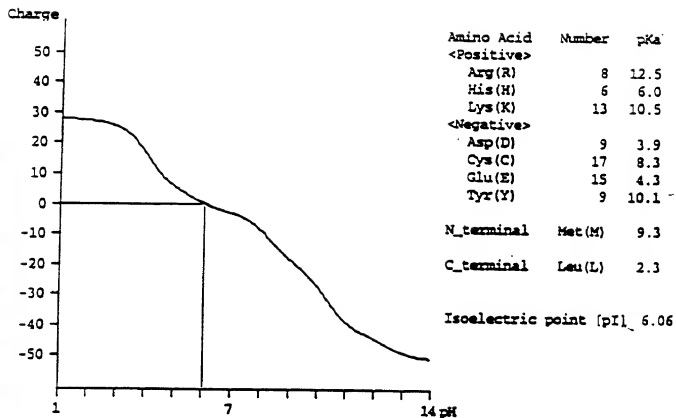


FIGURE 7